UNITED STATES PATENT AND TRADEMARK OFFICE

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10/662,314	09/16/2003	Brett Caldwell	9-13528-196US	1792

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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/662,314	CALDWELL ET AL.
	Examiner	Art Unit	
	Venkatesh Haliyur	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 September 2003*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213..

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1-20 are pending in the application.

Information Disclosure Statement

2.   The information disclosure statement filed on 09/16/2003 fails to comply with the

provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because applicant has not provided

valid dates for references listed in PTO form 1449 under "Other References" for items

AR & AT. It has been placed in the application file, but the information referred to

therein has not been considered as to the merits. Applicant is advised that the date of

any re-submission of any item of information contained in this information disclosure

statement or the submission of any missing element(s) will be the date of submission for

purposes of determining compliance with the requirements based on the time of filing

the statement, including all certification requirements for statements under 37 CFR

1.97(e). See MPEP § 609.05(a).

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4.   Claims 1,3-7 are rejected under 35 U.S.C. 102(b) as being anticipated by

Ballintine et al [US Pat: 6,246,667].

Regarding claim 1 Ballintine et al in the invention of " Backwards-Compatible

Failure Restoration in Bidirectional Multiplex Section-Switched Ring Transmission

Systems" disclosed a method for transmitting an automatic protection switching

(APS) message from a first network element (NE) to a second NE of a frame-based

optical network (Figs 1,10), the method comprising: inserting into a K-byte overhead

of a frame sent over a link from the first NE (Ring Node, item 101 of Fig 1) to the

second NE (Ring Node, item 102 of Fig 1, col 3, lines 5-48), information used to

determine a predefined proportion of the link's capacity (protection bandwidth and

ADM signals) to which the APS message is related, a tunnel

(tributaries/channel/path) with which the proportion of the link's capacity is

associated (col 3, lines 49-67), and status information related to that tunnel (col 5,

lines 7-21).

Regarding claim 3, Ballintine et al disclosed inserting the information

comprises inserting a tunnel entity ID that identifies both the proportion of the link's

capacity, and the tunnel (tributaries/channel/path), which provides a local identifier

of one of a working tunnel (service path) occupying the proportion of the link's

capacity (service bandwidth, col 5, lines 22-42), and a protection tunnel reserving

the proportion of the link's capacity (protection bandwidth, col 3, lines 26-37).

Regarding claim 4, Ballintine et al disclosed inserting the tunnel entity ID comprises inserting an index of a packed lookup table **(node map table, col 6, lines 8-29, Fig 5)**

Regarding claims 5-6, Ballintine et al disclosed inserting the status information of the tunnel segment further comprises inserting a preemption priority value that identifies a reason for a protection switch request, the preemption priority value being associated with a hierarchy of the reasons for the protection switch requests **(col 6, lines 63-67, col 7, lines 1-27, Fig 10)** and inserting the preemption priority value further comprises inserting an identifier of the preemption priority value associated with both a condition of, and a grade of service of **(priority)**, a tunnel **(tributaries/channel/path)** associated with the tunnel member **(ID of the communication tributaries, col 5, lines 8-42, Fig 6)**.

Regarding claim 7, Ballintine et al disclosed inserting the status information further comprises indicating: a state of occupancy of the tunnel segment by the working tunnel associated with the tunnel member **(service path)**, if the tunnel segment is a protection tunnel segment **(protection path, col 5, lines 8-21)**; whether the tunnel segment is selected, and is therefore transporting traffic of the working tunnel associated with the tunnel member **(channel)**, or the working tunnel member passing through the tunnel segment; and a signal failure or a signal degrade condition of the tunnel occupying the tunnel segment **(col 5, lines 22-42)**.

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6.   Claim 15 is rejected under 35 U.S.C. 102(e) as being anticipated by Mesh et al

[US Pub: 2004/0109408].

     Regarding claim 15, Mesh et al in the invention of "Fast Protection for TDM

and Data Services" disclosed an automatic protection switch (APS) signal processor

of a network element (NE) of a mesh-connected **(Figs 1c, 1d, para 0003)**, frame-

based optical network, the APS signal processor comprising: a receiver **(para 0004-**

007) for receiving APS messages in a K-byte overhead of frames transported over a

link from an adjacent NE **(para 0008)**; an interpreter **(K-byte protocol)** for reading

from the APS messages **(para 0024,0066)**, information used to determine a

predefined proportion of the link's capacity **(bandwidth)**; a tunnel **(channel)**

associated with the proportion of the link's capacity; and status information related to

that tunnel **(para 0011-0012,0091)**.

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art
> are such that the subject matter as a whole would have been obvious at the time the invention was made to
> a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be
> negatived by the manner in which the invention was made.

8.   Claims 2,8-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Ballintine et al [US Pat: 6,246,667] in view of Betta et al. [US Pat: 6,944,157].

Regarding claims 2,8-10, Ballintine et al in the invention of " Backwards-

Compatible Failure Restoration in Bidirectional Multiplex Section-Switched Ring

Transmission Systems" disclosed a method for transmitting a message on an automatic

protection switch channel between a first network element **(Ring Node, item 101 of Fig**

1) and a second NE of an optical network **(Ring Node, item 102 of Fig 1, col 3, lines**

5-48), the method comprising: sending a first K-byte overhead followed by one or more

follow-on K-byte overheads in respective sequentially validated frames over a link

between the first and second NE **(col 3, lines 5-48),** but fails to disclose using at least a

continuity of message indicator of the first and follow-on K-byte overheads to indicate a

beginning, and an end of the message.

However, Betta et al in the invention of "Time Management of Information

Distributed on K-Bytes in SDH frames" disclosed using a continuity of message

indicator of the first and follow-on K-byte overheads to indicate a beginning, and an end

of the message **(col 1, lines 15-52, col 2, lines 22-28, col 3, lines 4-22, Fig 1)** and

using the at least the continuity of message indicator comprises: setting a continuity of

message indicator in the first K-byte overhead to indicate that it is a first of an extended

message; and if the message requires more than one follow-on K-byte overhead,

creating a first follow-on K-byte overhead of a corresponding frame, the first follow-on K-

byte overhead including a length field for indicating a number of K-byte overheads in the

message **(col 4, lines 22-39)** and further comprising setting the continuity of message

indicator in the follow-on K-byte overheads so that each K-byte overhead that is part of

the extended message is identifiable as such **(col 3, lines 40-62)**.

Therefore it would have been obvious for one of ordinary skill in the art at the time

of invention was made to use the method of continuity of message indicator of the first

and follow-on K-byte overheads to indicate a beginning, and an end of the message as

taught by Betta et al in the system of Ballintine et al to include a continuity of message

indicator of the first and follow-on K-byte overheads to indicate a beginning, and an end

of the message. One is motivated as such in order to properly utilizing k-byte overheads

to optimize the reception of the change of information carried by the other K-bytes.

Regarding claim 11, Ballintine et al disclosed inserting into the first K-byte

overhead information that can be used to determine a predefined proportion of the link's

capacity **(col 3, lines 22-48)**; a tunnel associated with the proportion of the link's

capacity; and status information related to that tunnel **(col 5, lines 7-21)**.

Regarding claim 12-14, Ballintine et al disclosed determining if the message is

for adjacent NE signaling; and inserting a local message identifier into the K-byte

overhead, if the message is limited to adjacent NE signaling and inserting a local

message identifier **(col 6, lines 8-29)** comprises inserting a bit pattern that is not

generally used in K-byte overheads of standard frame-based optical networks, to assist

in troubleshooting network equipment connection **(col 7, lines 8-42)** and sending the

one or more follow-on K-byte overheads further comprises inserting a command code in

the K-byte overhead that identifies how a content field of the K-byte overhead is to be

interpreted, and inserting the content into the content field, the content being used for at

least one of: controlling transmission of K-byte messages, and managing tunnels

(channels) provisioned across the link **(col 8, lines 30-62)**.

9.   Claims 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Mesh et al [US Pub: 2004/0109408] in view of Betta et al. [US Pat: 6,944,157].

Regarding claims 16-17, Mesh et al in the invention of "Fast Protection for TDM

and Data Services" disclosed that the interpreter further comprises: a K-byte interpreter

for interpreting K1 and K2 bytes **(K1, K2 protocol, para 0011)** of the frames to read the

tunnel segment identifier, status, and the tunnel member **(para 0029-0033)**, but fails to

disclose an extension interpreter for reading a continuity of message indicator used to

indicate at which frame the APS message begins and ends, and the extension

interpreter is further adapted to read the continuity of message indicator that indicates

that the APS message is one of the following: self-contained in the one K-byte

overhead; contained in the current K-byte overhead in conjunction with that of at least
the subsequent frame; a follow-on K-byte overhead; and a resent K-byte message.

However, Betta et al in the invention of "Time Management of Information
Distributed on K-Bytes in SDH frames" disclosed using a continuity of message
indicator of the first and follow-on K-byte overheads to indicate a beginning, and an end
of the message (col 1, lines 15-52, col 2, lines 22-28, col 3, lines 4-22, Fig 1) and
using the at least the continuity of message indicator comprises: setting a continuity of
message indicator in the first K-byte overhead to indicate that it is a first of an extended
message; and if the message requires more than one follow-on K-byte overhead,
creating a first follow-on K-byte overhead of a corresponding frame, the first follow-on K-
byte overhead including a length field for indicating a number of K-byte overheads in the
message (col 4, lines 22-39) and further comprising setting the continuity of message
indicator in the follow-on K-byte overheads so that each K-byte overhead that is part of
the extended message is identifiable as such (col 3, lines 40-62).

Therefore it would have been obvious for one of ordinary skill in the art at the time
of invention was made to use the method of continuity of message indicator of the first
and follow-on K-byte overheads to indicate a beginning, and an end of the message as
taught by Betta et al in the system of Mesh et al to include a continuity of message
indicator of the first and follow-on K-byte overheads to indicate a beginning, and an end
of the message. One is motivated as such in order to properly utilizing k-byte overheads
to optimize the reception of the change of information carried by the other K-bytes.

Regarding claim 18, Mesh et al disclosed that the K-byte interpreter (K-byte

protocol, para 12) is adapted to read a tunnel entity ID that identifies both the tunnel

segment and the use, which identifies a tunnel member **(channel)** providing a local

identifier of one of a working tunnel occupying the proportion of the link's capacity **(para

0011-0018)**, and a protection tunnel reserving the proportion of the link's capacity **(para

0091)**.

Regarding claims 19-20, Mesh et al disclosed wherein the reading the tunnel

entity ID comprises reading an index of a packed lookup table **(switching tables, para

0050)** and wherein the K-byte interpreter reads the status of the tunnel segment to

identify a preemption priority value that identifies a reason for a protection switch

request, the preemption priority value being associated with a hierarchy of the reasons

for protection switch requests **(para 0052-0057)**.

Conclusion

10.   Any inquiry concerning this communication or earlier communications should be

directed to the attention to Venkatesh Haliyur whose phone number is 571-272-8616.

The examiner can normally be reached on Monday-Friday from 9:00AM to 5:00 PM. If

attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Wing Chan can be reached @ (571)-272-7493. Any inquiry of a general

nature or relating to the status of this application or proceeding should be directed to the

group receptionist whose telephone number is (571)-272-2600 or fax to 571-273-8300.

11.   Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197(toll-free).

Venkatesh Haliyur

Patent Examiner

04|30|07

WING CHAN
SUPERVISORY PATENT EXAMINER